

BORNSCHEUER et al.
09/161,680

REMARKS:

Claims 12-19 are pending. Claim 12 is amended. Claims 20-27 are cancelled.

I. Claim Rejections under 35 USC § 112 ¶2 (indefinite)

Claims 20 and 26 rejected

Claims 20 and 26 have been cancelled.

II. Claim Rejections under 35 USC § 112 ¶1 (written description)

Claims 12-27 rejected

The Board of Patent Appeals and Interferences argues that new matter has been added to the claims. Applicant has amended Claim 12 and directs the Examiner to the following places in the Specification wherein support for said amendments appears. All support appears in the instant Specification as originally filed.

The disclosure for the enzymes, lipases, esterases, nitrilases and phytases, can be found on page 4, lines 13-18.

The disclosure for the genetic markers in part a) of Claim 12 can be found on page 5, lines 41-43.

The disclosure for stereoselective enzymatic activity can be found on page 4, lines 24-26.

III. Claim Rejections under 35 USC § 112 ¶1 (enablement)

Claims 12-27 rejected

The Board of Patent Appeals and Interferences did not reach a decision based on the merits of this rejection.

Claims 12-27 were previously rejected by the Examiner for failing to provide an enabling disclosure of "methods using all enzymes, all substances, and all possible mutator strains." The Examiner rejected claims 12-27 under the enablement requirement because the specification, while being enabling for specific examples of the methods proven to achieve their goals, does

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not reasonably provide enablement for methods using all enzymes, all substrates and all possible mutator strains.

Claims 20-27 have been cancelled thusly, only Claims 12-19 will be addressed in this section of the response. Claim 12 has been amended to recite a group of enzymes consisting of lipases, esterases, nitrilases and phytases. Additionally Claim 12 has been amended to recite strains of XL1-Red *E. coli* or its functional derivatives. Applicants believe the nature of the experimentation required for claims 12-19 would be a routine matter for the skilled artisan. One of ordinary skill in the art would recognize how divergent from an enzyme's original substrate a particular substrate may be to ensure that the new catalytic activity can be produced in that enzyme. The field of enzymology is not so unpredictable that one of ordinary skill in the art would be unable to understand the necessary parameters inherent in practicing the present invention. To answer the Examiner's questions, one of skill in the art would apply the knowledge and understanding commonly held with regard to the individual enzyme to be mutated and/or substrate targeted.

IV. Claim Rejections under 35 USC § 112 ¶2 (indefinite)

Claims 24-27 rejected

Claims 24-27 have been cancelled.

New Grounds of Rejection

Claims rejected pursuant to 37 CFR § 41.50 (b)

A. Claim Rejections under 35 USC § 112 ¶1 (written description)

Claims 20 and 26 rejected

Claim 20 and 26 have been cancelled.

B. Claim Rejections under 35 USC § 112 ¶1 (written description)

Claims 12-26 rejected

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The Board of Patent Appeals and Interferences argues, the Specification, as originally filed, does not provide adequate written description of a method "for generating a new catalytic activity in an enzyme." Applicants have amended Claim 12 to recite "[a] method for altering the substrate specificity of enzymes" and support for said claim language can be found on page 3, lines 6-8, of the instant Specification.

For the foregoing reasons, it is respectfully submitted that allowance of all claims is in order.

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